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### REMARKS

This Supplemental Preliminary Amendment presents the above changes, and is further responsive in any manner indicated below.

### EXAMINER INTERVIEW ACKNOWLEDGED/STATEMENT OF SUBSTANCE

This paper is responsive to the examiner interview conducted 13 July 2004, by and between (as indicated on the Interview Summary document) Supervisory Primary Examiner (SPE) Mehrdad Dastouri, assigned Examiner Virginia M. Kibler, and attorney Paul J. Skwierawski, in the present application. More particularly, any foregoing amendments may include amendments discussed during, or resultant from, the examiner interview, and the following may include reiteration of discussions/arguments had during the examiner interview.

### PENDING CLAIMS

Claims 1-11 were pending, under consideration and subject to examination in the final Office Action in the original application. Appropriate ones of the claims have been amended or added in order to adjust a clarity and/or focus of Applicant's claimed invention, or merely for idiomatic English and readability. That is, such changes are unrelated to any prior art or scope adjustment, and are simply refocused claims in which Applicant is presently interested. At entry of this paper, Claims 1-34 are pending for further consideration and examination in this RCE application.

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### REJECTION UNDER 35 USC §103 - PRECLUDED

All prior 35 USC §103 rejections have been rendered obsolete by the present clarifying amendments to Applicant's claims, and accordingly, traversal arguments are not appropriate at this time. However, Applicant respectfully submits the following to preclude renewal of any such rejections against Applicant's clarified claims.

All descriptions of Applicant's disclosed and claimed invention, and all descriptions and rebuttal arguments regarding the applied prior art, as previously submitted by Applicant in any form, are repeated and incorporated herein by reference. Further, all Office Action statements regarding the prior art rejections are respectfully traversed. As additional arguments, Applicant respectfully submits the following.

As discussed during the aforementioned examiner interview, Applicant's disclosed and claimed invention is directed to arrangements (e.g., apparatus, systems, methods) allowing inspection (e.g., microscopic inspection) of articles such as semiconductor recticles, wafers, etc. As part of the invention, Applicant's invention includes a display screen (e.g., Applicant's FIG. 1) having a sorting display screen area 151 in which to display ones of images with unclassified semiconductor manufacturing defects, and a plurality of defect-classification display screen areas 152-155 into which each image of the images may be classified and displayed according to visual manufacturing defect features contained in the image. In practice, a human inspector may use a user-manipulated moving unit (e.g., a computer mouse) to move an image from said sorting display screen area to selected ones of said defect-classification display screen areas, to classify and

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display said subject image in the selected ones of the defect-classification display screen areas.

Turning now to preclusion of the art, the primary Aloni *et al.* reference is deficient in that such reference is TOO VAGUE regarding teachings as to any way in which it might effect manual manipulation by a user to sort images, and such reference is also TOO VAGUE regarding teachings as to how unsorted images might be displayed. More particularly, a vast mainstay of such reference is devoted to describing arrangements where defects are automatically classified by the Aloni *et al.* arrangement (without any user intervention). In contrast, only two small passages of Aloni *et al.* make the vague statements of:

...means are provided for displaying representation recorded by recording unit 66, such as representations of individual defects, to an operator, thereby allowing the operator to perform a variety of operator controlled operations such as defect detection system diagnostics, defect verification and elimination, and defect classification. [column 15, lines 22-27.]

and

Preferably, an operator display 256 such as a CRT provides an on-line display for the operator of the defect analysis process. The display preferably comprises a display of the defect images analyzed by the false alarm reducing unit 250.

The on-line display 256 enables the operator to review the defect images and, via a defect classification unit 258, to amend defect classifications. [column 27, lines 5-12.]

While Aloni *et al.* (via the above-quoted passages) makes the vague indication that an operator may perform defect classification, and that there may be a display used, Aloni *et al.*'s disclosure gives absolutely no details as to how this might actually be accomplished. Further, Aloni *et al.*'s disclosure gives absolutely no details as to what would actually be displayed on the display. Accordingly, it is

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respectfully submitted that there are endless ways in which defect classification might be accomplished, and endless ways that the display image could be arranged, while Aloni *et al.* does not concretely disclose or suggest any specific way. In short, nothing in the Aloni *et al.* reference discloses or suggests Applicant's specific inventive combination.

Turning next to the secondary reference, Steffan *et al.* teaches arrangements to classify defects wherein values of characteristic parameters represent a "thumbprint" of each defect, and defects are placed into "bins" according to the thumbprint of each defect. Steffan *et al.* is deficient in a number of regards. More particularly, Steffan *et al.* is also directed to an automatic classifying arrangement. Next, Steffan *et al.*'s automatic arrangement looks at characteristic parameter "thumbprints", and not actual images of the defects. In fact, Steffan *et al.* does not even appear to disclose a display screen. More particularly, the Steffan *et al.* FIGS. 2B, 2C are conceptual drawings (not display screens) for the purpose of explaining the method of Steffan *et al.*

Since Steffan *et al.*'s arrangement is directed to automatic classifying and there is no display screen, it is respectfully submitted that combination of Aloni *et al.*/Steffan *et al.* would only logically suggest addition (*i.e.*, combination) of Steffan *et al.*'s automatic method as another alternative in the Aloni *et al.* automatic arrangement. In fact, the column 3, lines 26-30, passage "Because it is impossible to analyze each defect, only a selected number of the total defects are analyzed.", in Steffan *et al.* appears to teach away from manual classification by any user.

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The Tanaka and Nara *et al.* references do not cure the deficiencies mentioned above with respect to the primary Aloni *et al.* and Steffan *et al.* references.

Beyond the above, it is respectfully noted that ones of the added claims submit further features/limitations that Applicant desires considered upon further examination. For example, claim 12 (and similar claims) contain the feature/limitations, "wherein Images of multiple classified ones of the images are simultaneously displayable within ones of the second display screen areas." Such arrangement is illustrated, for example, by Applicant's FIG. 15, where multiple defects are shown within the second display screen areas 152-155. Such arrangement is advantageous in that a user can always second-guess his/her prior classifications by performing visual comparison of defects within a given area 152-155 for consistency among defects. Any defect erroneously classified is readily apparent by such consistency comparison, and if necessary, any defect may again be manually moved and reclassified into another one of the areas 152-155 (such being shown by the lower movement arrow in Applicant's FIG. 15). None of the previously-applied references disclose or suggest such features/limitations.

Added independent claims 27 and 31 (and claims dependent therefrom) contain similar limitations "wherein images of multiple classified ones of said images are simultaneously displayable within ones of the defect-classification display screen areas". Again, none of the previously-applied references disclose or suggest such features/limitations.

As another (differing) example, claim 13 (and similar claims) contain the features/limitations of, "an data update unit to automatically update the classification

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information stored in the storage means, for each image manually-moved to one of the second display screen areas." Since none of the previously-applied references disclose or suggest manual classification movement to second display screen areas, it is respectfully submitted that no single or combination of references could have disclosed or suggested such features/limitations.

A still further example involves claim 14 (and similar claims) including "a user-classifier unit to allow user-designation of classification criteria for the plurality of second display screen areas into which each image of said images may be classified and displayed." Since none of the previously-applied references disclose or suggest Applicant's second display screen areas, no single or combination of references could have disclosed or suggested such a user-classifier unit.

As a result of all of the foregoing, it is respectfully submitted that none of the applied art would support a §102 anticipatory-type rejection or §103 obviousness-type rejection of Applicant's claims. Accordingly, such §§102 and 103 rejections are precluded, and express written allowance of all pending claims is respectfully requested.

#### **EXTENSIVE PROSECUTION NOTED**

Applicant and the undersigned respectfully note the extensive prosecution which has been conducted to date with the present application, and thus Applicant and the undersigned would gratefully appreciate any considerations or guidance from the Examiner to help move the present application quickly to allowance.

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### RESERVATION OF RIGHTS

It is respectfully submitted that any and all claim amendments and/or cancellations submitted within this paper and throughout prosecution of the present application are without prejudice or disclaimer. That is, any above statements, or any present amendment or cancellation of claims (all made without prejudice or disclaimer), should not be taken as an indication or admission that any objection/rejection was valid, or as a disclaimer of any scope or subject matter. Applicant respectfully reserves all rights to file subsequent related application(s) (including reissue applications) directed to any/all previously claimed limitations/features which have been subsequently amended or cancelled, or to any/all limitations/features not yet claimed, *i.e.*, Applicant continues (indefinitely) to maintain no intention or desire to dedicate or surrender any limitations/features of subject matter of the present application to the public.

### EXAMINER INVITED TO CALL

The Examiner is invited to telephone the undersigned at the local D.C. area number of 703-312-6600, to discuss an Examiner's Amendment or other suggested action for accelerating prosecution and moving the present application to allowance.

### CONCLUSION

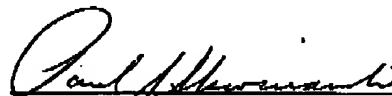
Applicant respectfully submits that the present application is now in condition for allowance, and an early Notice of Allowance to that effect is respectfully requested.

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This Supplemental Preliminary Amendment is being filed prior to mailing of an Office Action on the merits in the above-identified application, and therefore, a Petition for Extension of Time is required for entry of this paper. To whatever other extent is actually appropriate and necessary, Applicant petitions for an extension of time under §1.136. Also submitted concurrently herewith is a Form PTO-2038 authorizing payment of the requisite additional claim fees. Please charge any actual shortage in fees to ATS&K Deposit Account No. 01-2135 (as No. 501.37892X00).

Respectfully submitted,



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Attachments:

Form PTO-2038 (Fee Codes 1201/1202)